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TORO

The Toro Company

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January 30, 1990

Mr. Bill Anderson
Vice President
UNIQUE Mobility
3700 South Jason Street
Englewood, CO 80110

Bill:

Thank you for your proposal of January 11 on how to proceed on the electric drive Greensmaster 300 project. To have the necessary background for a response, I would like to review the original intent of the project which was undertaken by UNIQ and Toro. I quote from DEVELOPMENT OF ELECTRIC DRIVES FOR THE TORO GREENSMOWER 300, March 4, 1987, from UNIQ to Toro, section 1.0:

"The intent of our proposal is to demonstrate the possibilities and significant advantages of using electric wheel drive and electric reel drives over the currently employed hydraulic systems. To that end, we propose to take an existing Greensmower 300 and convert it to an all electric vehicle ...

"We will apply our technology in such a way that the vehicle itself will behave and operate almost, if not identically, to the existing design.

"The contract deliverable will include a working prototype conversion as described in Section 2.0 below..."

And section 2.0 of the same document:

"We consider the project proposal to be one of demonstration of electric drive possibilities for Toro and its management."

The desire of Toro was that the machine would have several advantages over a hydraulic drive machine: no risk of oil leaks, lighter weight, smaller engine due to higher efficiency of drive systems, and more precise control of speeds due to electronic controls of operating systems. At the same time, the production electric drive machine must be at least as durable, reliable, and safe as the current hydraulic drive machine. These desires remain today, with even stronger feelings of their importance.

Both Toro and UNIQ have agreed that the prototype as delivered did not "behave and operate almost, if not identically, to the existing design." The prototype has been so power limited that it cannot both drive and run the mowers at the same time.

Exhibit E

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UNIQ Mobility
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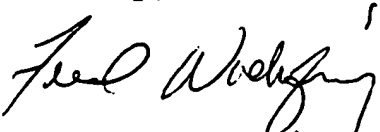
This has been shown to be due to poor efficiencies of the drive systems as installed by UNIQ. At the same time, subsystem reliability has been very poor, especially in the phase converter and controllers. While this machine was not intended as a durability test machine, the lack of reliability points out a need for much improvement in this area. Beyond all of that, the cost estimates which were provided to Toro indicate that the electric drive system would cost a significant premium over the hydraulic system it would replace.

The proposed improvements in the efficiencies would bring the system efficiency up to about 52%. This compares to about 56% for the current hydraulic system. Our desired goal was and continues to be a total drive system efficiency of about 70+%. This seems unattainable by the UNIQ system even in the most optimistic scenario. Additionally, the required changes to improve efficiency and reliability would make the cost premium even more prohibitive.

In view of the above discussion, and considering other areas in which Toro is desiring to invest moneys to improve our products, it seems that the UNIQ technology as known today is too risky to pursue with any investment at this time. However, as we have indicated, Toro is very interested in the concept of electric drive for our products, and we would like to be kept appraised of the improvements which you make in the technology so that when it becomes what we would consider near to production that we may again become involved in the implementation of the technology on Toro products. (Some goals for this would be prototypes which demonstrate over 60% system efficiency, and over 100 hours mean time between failures.) Until that time, unfortunately, we must choose not to invest more money in the concept.

I have enjoyed working with you on this project, and wish you all the best in your endeavor to improve the technology to the point of being producible. Please keep me informed of the progress.

Sincerely,



Fred Wucherpfennig, P.E.
Sr. Principal Engineer
Commercial Division

cc: John Szafranski, Jim Swindal, Dana Lonn
John Gould, UNIQ Mobility